

### **REMARKS/ARGUMENTS**

All claims stand rejected over the teachings of U.S. Patent 4,636,088 either alone or in combination with U.S. Patent 4,513,384. In addition, Claims 8 and 11 were rejected as being indefinite under 35 USC 112, second paragraph.

Specifically, Claims 8 and 11 were rejected for having no antecedent basis for the "second beam", and Claim 8 for having no connection to the structure of Claims 1 and 7. Both Claims 8 and 11 are now amended to recite a "first beam" and a "second beam" thereby to provide the antecedent basis. Moreover, Claim 1 has been amended to eliminate the "first beam" thereby to make it broader. The requirement to use a "first beam" is unnecessary in Claim 1, in view of patentability of Claim 1 as discussed below. Accordingly, Applicants respectfully request the Examiner to withdraw all rejections under 35 USC 112, second paragraph.

New claims 23-36 are added. The new claims as well as amendments to Claims 15-17 are supported throughout the originally-filed specification, including, for example, page 4 lines 7-16, page 5 lines 20-21, page 6 lines 8-15, page 8 lines 23-25, page 10 lines 5-20, page 13 lines 17-21, page 15 lines 3-18, page 16 lines 11-14, page 27 lines 21-25, and page 32 lines 12-13.

Note that Claim 2 as presented above includes the amendments shown at page 2 of the previous Amendment filed November 6, 2003. The appellation (parenthetical expression of the status) of this claim in the previous Amendment was mistakenly stated as being "original" although it was in fact being amended. The appellation of Claim 2 is now "previously presented". The Examiner is requested to review and approve the changes to Claim 2 as shown (underlined and struck through) in the prior Amendment.

Claim 1 was rejected in the Office Action dated January 22, 2004 under 35 U.S.C. §102(b) as being obvious over the teachings of U.S. Patent 4,636,088 granted to Rosencwaig. Specifically, on page 4 of the Office Action the Examiner stated that (1) Rosencwaig shows a method for determining a property of a portion of a structure having a first layer, citing column 4, lines 50-61, column 6, lines 45 and elsewhere; (2) Rosencwaig teaches generating a first beam (34) of electromagnetic radiation citing column 6, lines 20-24; (3) Rosencwaig teaches focusing the beam onto a region of a first layer (column 6, lines 32-33) and that as the beam is focused on the sample the sample may include a top layer, it is necessarily true that the beam is focused onto a region of the first layer; (4)

Rosencwaig measures a temperature change in the surface of the sample (column 7, lines 3-5, and column 8, lines 1-4); and (5) Rosencwaig uses a relationship between temperature change and an electrical conductive property (dopant level; see column 10, lines 1-21).

Regarding Examiner's argument (1), Applicants submit that Rosencwaig at most appears to teach detection of actual concentration of implanted dopants (column 10, line 6). As discussed below, there appears to be no suggestion by Rosencwaig to determine an electrical conductive property. Regarding Examiner's arguments (2) and (3), Applicants submit that Claim 1 no longer recites "a first beam." Nonetheless, Applicants submit that even when a beam is used (e.g. as per Claims 8 and 11), the Examiner must show a prior art basis for why the beam is to be focused on the first layer and not focused on an underlying layer (whose temperature coefficient of reflectivity is to be measured as per Rosencwaig). Moreover, Applicants also traverse the Examiner's argument (5) for reasons discussed below.

Claim 1 is amended now to state that the crystalline phase in the first layer depends on an annealing condition used to form the first layer. Support for this amendment to Claim 1 is found throughout the originally-filed specification, including, for example, page 6, lines 8-9. Claim 1 is further amended to eliminate the requirement for the first layer to be at least 10% transmissive. Support for this amendment to Claim 1 is found throughout the originally-filed specification, including, for example, page 3, lines 30-31.

Claim 1 in its present form is neither disclosed nor suggested in the teachings of U.S. Patent 4,636,088 granted to Rosencwaig. Specifically, Claim 1 now limits application of the claimed method to a structure whose first layer has been annealed. There appears to be no suggestion in U.S. Patent 4,636,088 for application of Rosencwaig's teachings to post-annealed structures. In fact Rosencwaig appears to indicate in column 10, lines 10-13 that his teachings are applied to unannealed structures ("ions locked at the interstitial sites, prior to annealing"). In evaluating such structures, Rosencwaig appears to teach the detection of actual concentration of implanted dopants (column 10, line 6). However, Rosencwaig doesn't seem to evaluate an electrical property, after activation of implanted ions by annealing. In contrast, Claim 1 requires using the measured signal to determine an electrical conductive property which depends on (and is therefore indicative of) crystalline phase. Applicants submit that in view of the above-discussed reasons, Claim

1 patentably distinguishes over the teachings of U.S. Patent 4,636,088 (which is the only reference cited in the obviousness rejection). Claims 2-18 depend from Claim 1 and are therefore patentable for at least the same reasons as those discussed above for Claim 1.

Many of Examiner's comments on the teachings of U.S. Patent 4,636,088 are rendered moot in view of the above-discussed reasons for patentability. For example, the Examiner discussed in the Office Action at the bottom of page 4 and top of page 5 various frequency ranges, including 0.1 kHz to 100 kHz which are mentioned in the Applicants' "instant specification" at page 23, line 3, but this range is not explicitly recited in Claim 1, and hence the Examiner's comment is moot. In any case, Applicants respectfully request the Examiner to refrain from using Applicants' "instant specification" in any prior art rejection in the future. Moreover, all of Applicants' arguments from the prior amendment regarding the distinctions of Applicants' claims over U.S. Patent 4,636,088 are incorporated by reference herein in their entirety. For example, an argument about a formula at the bottom of column 5 of U.S. Patent 4,513,384 that was made in the prior amendment in support of patentability of Claim 5 is incorporated herein.

Claim 19 is amended to recite additional limitations which are supported throughout the originally-filed specification, including, for example page 10 lines 5-26. Claim 19 is believed to be patentable for one or more of the reasons discussed above for Claim 1. There appears to be no suggestion in U.S. Patent 4,636,088 **to drive a signal on a line** to an annealing apparatus as now recited in Claim 19. Moreover, as mentioned in the prior amendment, Claim 19 also recites a limitation on the modulation frequency that is nowhere disclosed in the teachings of U.S. Patent 4,636,088. In this context, Applicants again request the Examiner to refrain from using Applicants' "instant specification" in any prior art rejection in the future.

For the above reasons, Applicants respectfully request allowance of all pending claims. Should the Examiner have any questions concerning this response, the Examiner is invited to call the undersigned at (408) 982-8200, ext. 3.

**Via Express Mail Label No.  
ER 205 700 291 US**

Respectfully submitted,



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